Bagnall Poulton Fund," to be applied at the discretion of the Hope professor of zoology at the University of Oxford, in the promotion of the study of evolution, organic and social. Professor Baldwin has also announced his intention of leaving by will money for the sustentation of such a fund.

DR. D. A. ROTHROCK, professor of mathematics, has been elected dean of the college of liberal arts of Indiana University.

PROFESSOR H. E. HAYDEN, JR., formerly associate professor of biology in the A. & M. College of Texas, is now professor of biology in the University of Richmond, Va. Mr. Paul R. Merriman has recently been added to the staff as associate professor of botany.

DR. JOHN STEPHENSON, until recently professor of zoology in Government College, Lahore, has been appointed lecturer in zoology in the University of Edinburgh.

## DISCUSSION AND CORRESPONDENCE

### POSITIVE RAY ANALYSIS OF MAGNESIUM

USING the apparatus for positive ray analysis described in *The Physical Review* for April, 1918, I have recently succeeded in analyzing the element magnesium (atomic weight 24.36) into three isotopes of atomic weights 24, 25 and 26. The method is an adaptation to positive rays of a method previously used for measuring the ratio of charge to mass for electrons. The three components of magnesium appear suddenly together as the magnesium anode is heated to vaporize slightly. Their masses may be compared accurately with the molecule of mass 28 due either to occluded nitrogen or carbon monoxide, which is driven off at lower temperatures. The method also gives the relative amounts of the rays; the components at 25 and 26 are of about equal intensity, and that at 24 approximately six times as strong as the others. The average atomic weight 24.375 agrees as closely as is to be expected in these first experiments with the chemical atomic weight.

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### ON RECORDING APPARATUS FOR METEOROLOGICAL RESEARCH WITH ROCKETS

MR. S. P. FERGUSSON of the Weather Bureau has recently published several ingenious suggestions regarding the development of recording apparatus free from pivots, and hence useful in devices that are subject to jar. These suggestions are described in the *Monthly Weather Review* for June, 1920, pp. 321–322.

In this connection it is worth while remarking that tests with the model at present being made, using a mass carrying a recording pencil and held by a spring, show that the jar need at no time during the ascent be greater than would be experienced by a body striking the ground from a fall of 31 inches. This figure may be considered as representative of practical working conditons, but it is the jar, however, without any springs or shock-absorbing devices to protect the instruments.

Recording instruments for this particular work may be divided into two classes: First, instruments recording temperature, pressure and humidity by means other than the use of pivots, as already mentioned, the recording taking place both during ascent and descent. If records are to be had during the ascent, however, care must be taken so to support the various masses that there is no tendency to vibrate in a vertical plane. In general, this will not be a simple matter.

To the second class of instruments belong those involving the use of pivots which are kept separated from the bearings until automatically brought into contact when the descent begins, or at least after the propelling impulses have ceased. Instruments of this type need not differ fundamentally from devices at present in use, except that any considerable moments of force on delicate parts should be avoided.

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### THE HISTORY OF SCIENCE SECTION AND THE PROGRESS OF SCIENCE

TO THE EDITOR OF SCIENCE: In view of the approaching meeting of the American Asso-